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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
POLYANSKY, ALEXANDER	
ART UNIT	PAPER NUMBER
1793	

NOTIFICATION DATE	DELIVERY MODE
01/21/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/593,971	DESSIS ET AL.	
	Examiner	Art Unit	
	ALEXANDER POLYANSKY	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of claims 6 and 15 in the reply filed on September 29, 2009 is acknowledged.

The traversal is on the ground(s) that the Office has not demonstrated any of the indications of distinctness (A), (B) or (C) listed in MPEP §806.05G). Furthermore, Annex B of the Administrative Instructions under the PCT at (b) Technical Relationship states: "The expression "special technical features" is defined in Rule 13.2 as meaning those technical features that defines a contribution which each of the inventions, considered as a whole, makes over the prior art. The determination is made on the contents of the claims as interpreted in light of the description and drawings (if any)." Applicants respectfully submit that the Examiner has not provided sufficient indication that the contents of the claims interpreted in light of the description was considered in making the assertion that the species do not relate to a single general inventive concept.

This was found persuasive; therefore, the restriction requirement has been withdrawn.

Claims 1-18 remain for examination.

Claim Objections

Claims 1-18 are objected to because of the following informalities:

In claim 1, line 4, the phrase "comprising the steps consisting in" is not an accepted terminology and it will be construed to be open language as if the claim was reciting "comprising." Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 8-13, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. US 5,976,282 in view of Schoen et al. US 5,702,539.

Regarding claim 1, Fukuda teaches a process for the continuous manufacture of an austenitic stainless steel strip (title and abstract) comprising:

subjecting a cold-rolled (col. 4, line 21) austenitic stainless steel strip to a heat treatment in a bright annealing furnace (col. 1, line 30) inside which a flushing gas (N_2 as in example 1, col. 10, line 48) chosen from inert or reducing gases.

Fukuda teaches pickling the strip (or plates) having undergone the heat treatment (example 1), using an acid pickling solution (example 1) suitable for completely removing said oxide layer according to its thickness and its nature.

Fukuda does not specify that N_2 has a dew point above -15°C. However, in view of the Fukuda's teaching that the flushing gas can be N_2 which matches the flushing gas of the applicants' own disclosure (pars. 13-14), thus the flushing gas, N_2, of Fukuda would be expected to exhibit the claimed dew point property.

Since the flushing gas of Fukuda contains no air, it meets the optionally comprising less than 1% air by volume feature in claim 1, line 8.

Fukuda teaches the heat treatment steps to include a heating phase at a heating rate V1 (col. 10, lines 16-17; example 1), and a soak phase at a temperature T for a soak time M (example 1, 1100°C for 30 sec).

Even though Fukuda teaches obtaining a strip with an oxide layer which is then immersed in a acid pickling bath (example 1) to remove the oxide layer, Fukuda does not specify the step of a cooling phase at a cooling rate V2 in order to obtain a strip covered with an oxide layer.

Schoen teaches a method of production of an austenitic steel strip (abstract and claims) wherein the steel strip is subjected to a cooling step at a cooling rate V2 in order to obtain a strip covered with an oxide layer (Schoen claim 5 and col. 10, lines 5-7).

It would be obvious to one of ordinary skill in the art to modify the process of making an austenitic steel in Fukuda by incorporating the cooling step as taught in Schoen in order to obtain a strip that is austenitic phase (Schoen col. 9, lines 43-67).

With respect to the limitation having a dull surface appearance with a brightness of less than 30 and an arithmetic mean roughness Ra of greater than 0.12 microns, of the annealed/pickled type, Fukuda teaches the roughness of above 0.1 and below 0.5 microns (abstract), and even assuming *arguendo* that the depth of the intergranular groove in the surface layer of Fukuda (abstract) does not meet the roughness Ra as claimed, since the stainless steel of Fukuda is treated in a substantially similar manner as claimed in claim 1, Fukuda's strip would be expected to have a dull surface appearance with a brightness of less than 30 and an arithmetic mean roughness Ra of greater than 0.12 microns, of the annealed/pickled type.

Even further with respect to the brightness value as claimed, assuming *arguendo* that because the steel strips of Fukuda exhibit a higher than claimed brightness values in tables 1 and

3, since Fukuda teaches that the surface brightness, polishing properties and corrosion resistance of a cold-rolled plate can be improved by suppressing the intergranular erosion and surface defects in the processing steps and by adjusting the concentrations of nitric acid and hydrofluoric acid during pickling after final annealing (col. 3, lines 14-64). Therefore, the claimed brightness of less than 30 is the result of the result-effective variables such as the intergranular erosion, surface defects, and the concentrations of nitric acid and hydrofluoric acid during pickling, and it would be obvious to one of ordinary skill in the art to optimize those variables in order to achieve the desired surface brightness. See MPEP 2144.05(II)(B).

Regarding claims 2-4, Fukuda teaches a reducing gas such as nitrogen (example 1), which would be expected to have the claimed dew point properties as claimed in claims 2 and 3, because nitrogen would inherently possess the claimed dew points.

Regarding claim 5, Fukuda in view of Schoen teach all the claimed features to include, heat treating the strip at 1100°C and soaking the strip for 30 seconds (Fukuda example 1) and cooling the strip at greater than 10°C/sec (Schoen claim 5 and col. 10, lines 5-7).

Further with regard to the steps and rates as claimed in claim 5, since Fukuda in view of Schoen teaches that in order to obtain an austenitic phase strip it is desirable to carry out the heating, soaking and cooling within the ranges of about 1100°C for 30 seconds (col. 9, lines 18-22) (which meet the claimed range of 1050 and 1150°C for 1 to 120 sec) and cooling at 23°C/sec (which meets the claimed range of greater than 10°C/sec), the claimed heat treatment steps of heating, soaking, and cooling are result-effective variables in terms of affecting the microstructure (col. 9, lines 18-22, *inter alia*) of the steel strip (austenite) and it would be obvious to one of ordinary skill in the art to optimize the heating rate, soaking temperature and

duration and the cooling rate in order to obtain the desired microstructure in the steel which is austenite (Schoen col. 9, lines 43-67, claim 5, and col. 10, lines 5-7).

Regarding claim 8, Fukuda teaches nitric acid and hydrofluoric acid pickling solutions (example 1).

Regarding claim 9, Fukuda teaches nitric acid and ferric ions (example 1).

Regarding claims 10-11, Fukuda teaches an acid mixture of 50 g/l nitric acid and 35 g/l hydrofluoric acid. It is noted that the nitric acid concentration is less than the claimed 60 to 140 g/l in claim 10, and 80 to 120 g/l in claim 11.

However, since Fukuda teaches that the surface brightness, polishing properties and corrosion resistance of a cold-rolled plate can be improved by suppressing the intergranular erosion and surface defects in the processing steps and by adjusting the concentrations of nitric acid and hydrofluoric acid during pickling after final annealing (col. 3, lines 14-64), the claimed the concentrations of nitric and hydrofluoric acid are result-effective variables in terms of affecting the surface brightness of the steel strip (col. 3, lines 54-57, *inter alia*), and it would be obvious to one of ordinary skill in the art to optimize the concentrations of those acids in order to achieve the desired surface brightness. See MPEP 2144.05(II)(B).

Regarding claims 12-13, Fukuda teaches an acid mixture of 35 g/l hydrofluoric acid and 30 g/l Fe, which are within the claimed hydrofluoric acid and ferric ions concentrations as claimed.

Regarding claim 15, Fukuda teaches immersing the austenitic stainless steel in a pickling bath (example 1) containing the acid pickling solution.

Regarding claims 16-17, Fukuda teaches the pickling bath is 60°C, which is within both ranges of claims 16 and 17.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. US 5,976,282 in view of Schoen et al. US 5,702,539 as applied to claim 1 above and further in view of Pronk et al. US 6,109,336.

Regarding claim 6, Fukuda in view of Schoen do not specify the heat treatment device is an induction heating device.

Pronk teaches the manufacture of steel strip with an austenitic phase, wherein the furnace apparatus is an induction furnace, which is used in order to compensate for the heat loss that occurs mainly on the surface, and provide for temperature homogenization (Pronk col. 4, lines 61-65).

It would be obvious to one of ordinary skill in the art to modify the process of Fukuda in view of Schoen by using the induction heating device of Pronk in order to compensate for the heat loss that occurs mainly on the surface, and provide for temperature homogenization (Pronk col. 4, lines 61-65).

Regarding claim 7, Fukuda in view of Schoen do not specify the heat treatment device is a resistance heating device.

Pronk teaches the manufacture of steel strip with an austenitic phase, wherein the furnace apparatus is a resistance furnace, which is used in order to supply the energy directly to the strip, so that the surface of the strip is heated again due to heat loss to the surroundings (Pronk col. 6, lines 15-20).

It would be obvious to one of ordinary skill in the art to modify the process of Fukuda in view of Schoen by using the resistance heating device of Pronk in order to supply the energy directly to the strip, so that the surface of the strip is heated again due to heat loss to the surroundings (Pronk col. 6, lines 15-20).

Claims 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. US 5,976,282 in view of Schoen et al. US 5,702,539 as applied to claim 1 above and further in view of Koza et al. US 2004/0079398.

Regarding claim 14, Fukuda in view of Schoen does not specify that in order to pickle the austenitic stainless steel strip, the strip is sprayed with the acid pickling solution.

Koza teaches a method of pickling a stainless steel strip (par. 20) wherein the acid pickling solution is sprayed on the steel strip in order to make the pickling step continuous and to prevent spots from forming (Koza abstract, pars. 4, 9, and etc.).

It would be obvious to one of ordinary skill in the art to modify the process of pickling in Fukuda in view of Schoen by incorporating the pickling solution prayers of Koza in order to make the pickling step continuous and to prevent spots from forming (Koza abstract, pars. 4, 9, and etc.).

Regarding claim 18, Fukuda in view of Schoen does not specify the time during which the strip is in contact with the pickling solution is between 10 sec and 2 min.

Koza teaches a method of pickling a stainless steel strip (par. 20) wherein Koza teaches that the pickling of steel is a process for removing scale and continuous sheets of steel are typically carried through several acid baths by immersing the strip completely in the baths for sufficient time to remove the scale (Koza par. 3). Therefore, the time during which the strip is in

contact with the pickling solution is a result-effective variable and it would be obvious to one of ordinary skill in the art to optimize the contact time with the strip and the pickling solution in order to sufficiently remove the scale. See MPEP 2144.05(II)(B).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER POLYANSKY whose telephone number is (571)270-5904. The examiner can normally be reached on Monday-Friday, 8:00 a.m. EST - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alexander Polyansky/
Examiner, Art Unit 1793

/Roy King/
Supervisory Patent Examiner, Art Unit 1793